INTEGRATED APPROACH TO STANDARDS IN THE BUILT ENVIRONMENT

Prepared for NIST Standards in Trade Workshop for China on Fire Protection in the Built Environment

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- Independent, not-for-profit organization dedicated to public safety
- Global reach with offices in over 20 countries, including China
- Leader in product safety standards development and certification and conformity assessment services
- UL has 884 published standards covering 18,000 product types

US Voluntary Safety System

Role of Government

- In the US, Standards Development is primarily conducted by the private sector (voluntary) rather than by government agencies (mandatory) as in other countries.
- The US system is one in which the private sector leads and the US government is a partner, user, and stakeholder.
- Federal, state, and local governments develop and issue procurement specifications and mandatory codes, rules, and regulations, but they play a different role in voluntary standards
- The US government:
  - participates in the development process of standards development organizations
  - provides the measurement structure and technical basis underpinning some of the requirements in standards
  - references applicable standards rather than developing technical requirements of its own.
- Key agencies: NIST, DOD, CPSC, FDA, EPA, OSHA and DHS

Role of Government

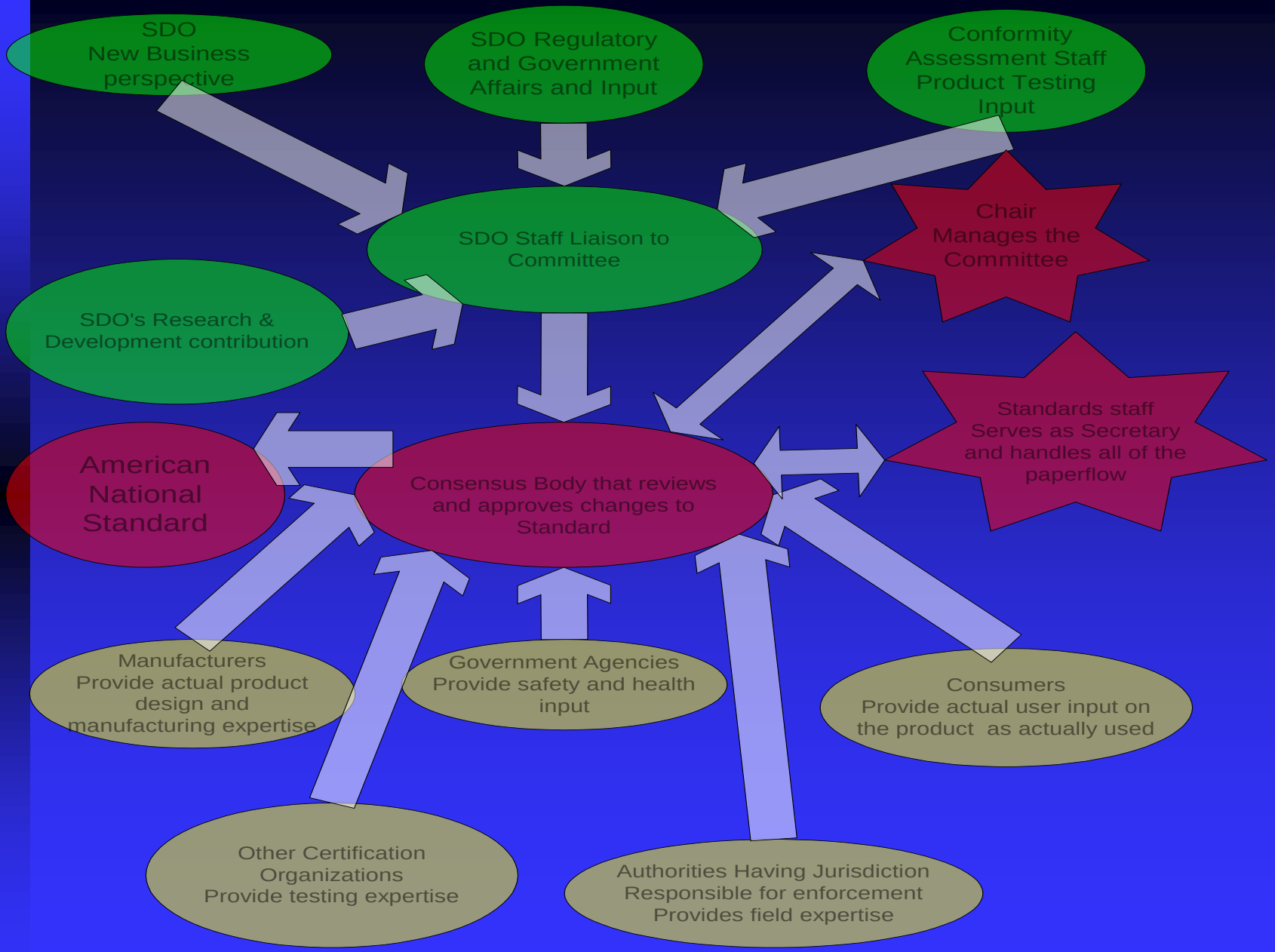
- The National Technology Transfer and Advancement Act (NTTAA) encourages US government agencies to participate in the development and use voluntary consensus standards
- Objectives:
  - reduce government costs and the burden of complying with the agency regulation
  - encourage development of voluntary consensus standards that meet national needs
  - support growth, competitiveness, and efficiency of US industry through harmonization of standards
  - maintain the relevancy of requirements

Voluntary Standards Development

- Various stakeholders involved in voluntary Standards Development are:
  - Manufacturers
  - Authorities Having Jurisdiction – Such as National Association of State Fire Marshals
  - Code Making Bodies – Such as NFPA and ICC
  - Government Agencies – Such as NIST and CPSC
  - Consumers
  - Certification Organizations – Such as UL, ETL, FM

Principles of the Voluntary Standards Process

- Openness
- Balance
- Consensus
- Due Process


SDO
New Business
perspective
SDO Regulatory
and Government
Affairs and Input
Conformity
Assessment Staff
Product Testing
Input
SDO Staff Liaison to
Committee
Chair
Manages the
Committee
SDO's Research &
Development contribution
American
National
Standard
Consensus Body that reviews
and approves changes to
Standard
Standards staff
Serves as Secretary
and handles all of the
paperflow
Manufacturers
Provide actual product
design and
manufacturing expertise
Government Agencies
Provide safety and health
input
Consumers
Provide actual user input on
the product as actually used
Other Certification
Organizations
Provide testing expertise
Authorities Having Jurisdiction
Responsible for enforcement
Provides field expertise

Built Environment

- Built Environment – Components and services that go into the structures and infrastructure in which we live and work:
  - High Rise buildings
  - Retail offices
  - Manufacturing
  - Residential (homes)
  - Warehouses
  - Municipal buildings

Fire Protection Areas

- Fire Protection – The following areas are covered under the category of fire protection:
  - Fire Suppression Systems
  - Fire Resistance and Containment
  - Building Products and Communication Systems
  - Fire Detection
  - Fire Research

Fire Protection in the Built Environment

- Aspects covered range from:
  - Materials analysis of plastics, fiber, liquids, film, foam, etc
  - Product performance needs for cable, consumer products, appliances, furniture, equipment, etc
  - System needs for offices, HVAC, electrical, security, etc
  - Structure needs as defined in Building Codes

Specifics

- **The types of products and services covered by a typical Fire Protection program are :**
  - Air Ducts
  - Fabric/Office Panel Flammability
  - Sprinklers
  - Extinguishing Systems
  - Large and Small Scale Fire Testing
  - Roofing
  - Building Assemblies, Doors, Dampers, Fire Stops
  - Smoke Detectors
  - Telecommunication Products
  - Fire Modeling
  - Cable Flammability

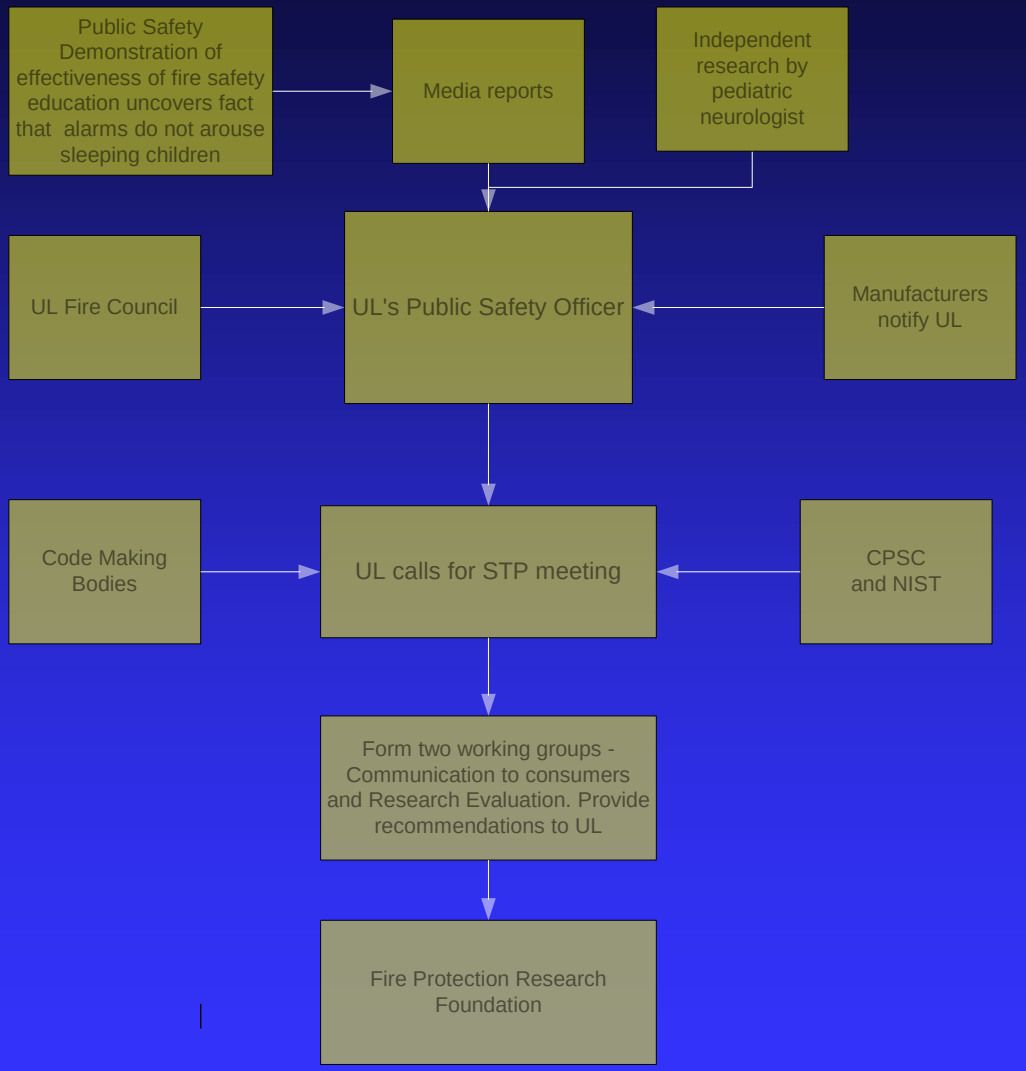
Standards Organizations Involved in Fire Protection

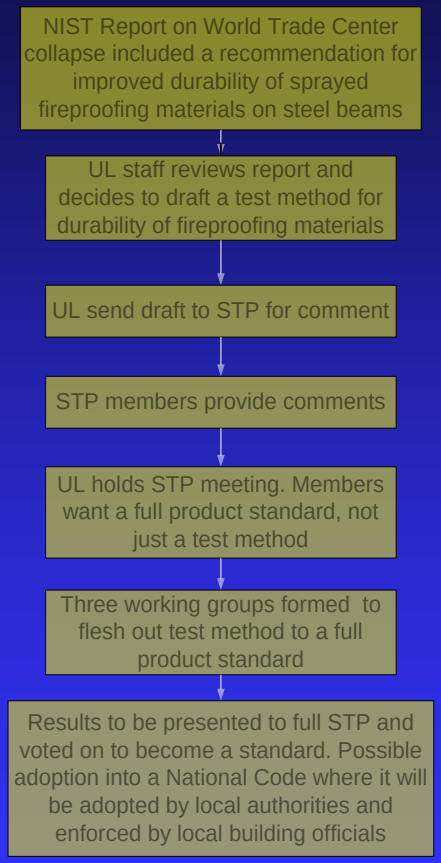
- **ASTM – Primarily Test Methods**
- **NFPA and ICC – Primarily Installation Codes**
- **UL – Primarily Product Safety Standards**

Integrated Approach to Standards Development

- **At UL, the following internal resources are also available to provide input into Standards Development:**
  - Standards Staff
  - Primary Designated Engineer (PDE)
  - Strategic Business Units (SBU)
  - Conformity Assessment Staff
  - Research & Development
  - Regulatory Services

Integrated Approach




NIST Report on World Trade Center collapse included a recommendation for improved durability of sprayed fireproofing materials on steel beams
UL staff reviews report and decides to draft a test method for durability of fireproofing materials
UL send draft to STP for comment
STP members provide comments
UL holds STP meeting. Members want a full product standard, not just a test method
Three working groups formed to flesh out test method to a full product standard
Results to be presented to full STP and voted on to become a standard. Possible adoption into a National Code where it will be adopted by local authorities and enforced by local building officials

Benefits of Integrated Approach

- Comprehensive expertise
- Stakeholders' needs are reflected
- Produces "balanced" standard
- International participation
- Bottom-up approach
- Global Relevance

Challenges (and Solutions) of Integrated Approach

- Difficulty in bringing all stakeholders together for standards development due to geography and financial considerations. Solution is use of electronic tools, such as web-based standards forums to allow people to participate remotely – this encourages international participation. Provide funding to allow certain members to attend meetings

Final Thought

- An open and transparent process that affords an opportunity for consensus among all interested parties will result in standards that are relevant on a global basis and will prevent unnecessary barriers to trade

THANK YOU